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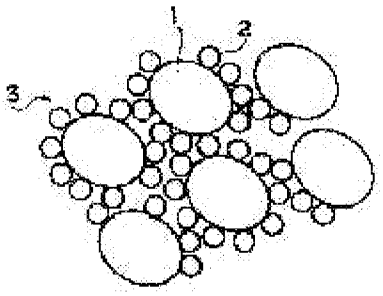
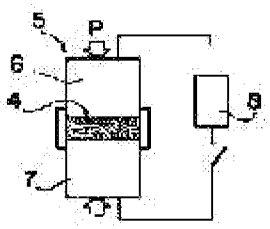
(54) MANUFACTURE OF THERMOELECTRIC MATERIAL

(57)Abstract:

PURPOSE: To realize an non-silicon compound not containing compositional substances other than an FeSi2 by a method wherein a powder aggregate consisting of capsulated particles is subjected to current-conduction sintering and an FeSi2 metallic compound is produced.



CONSTITUTION: Si particles are respectively made to adhere on the surfaces of FeSi particles utilizing an electrostatic attracting force, the FeSi particles with the Si particles are made to perform a centrifugal rolling for several minutes in a high-speed air flow and a dust molded material 4 consisting of capsulated particles 3, which have the FeSi particles 1 as nuclear particles and have the Si particles 2 as covered particles, is set in a sintering device 5. This device is constituted of one pair of flat, plate hard dies 6 and 7 and a special power supply 8 and while prescribed high surface pressures P are applied to the molded material 4 in the dies, a conducting current or pulse discharge is applied, whereby the



particles 3 are heated and the f' particles are bonded to each other. That is at the time of sintering, the FeSi particles gradually react with Si particles, a composition is made to transfer in the direction of an FeSi2 composition, and when this diffusion reaction ends with the raw materials all compounded in the FeSi2 composition according to a compounding weight ratio, an FeSi2 sintered body is produced without generating a compositional deviation.